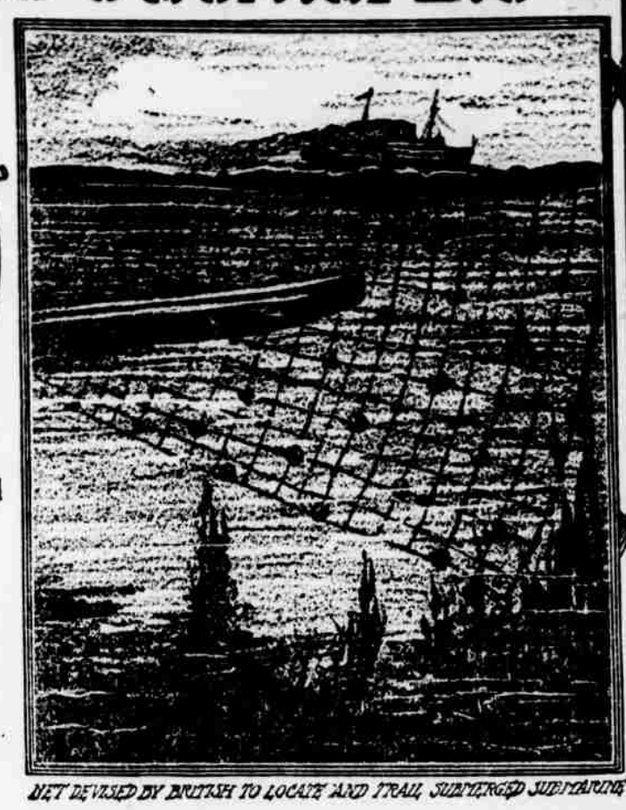
Fighting the Deadly Sea Mine and Submarine

Human ingenuity has been taxed the limit in developing these instruments of destruction and finding means to overcome them



NET DEVISED BY BRITISH TO LOCATE AND TRAIL SUBMERGED SUBMARINE

DECOY PERISCOPE ON TOP OF CONTACT MINE

FOR many months after the outbreak of the war abroad the submarine mine was a close second to the torpedo in achieving the destruction of all kinds of shipping. Thereafter the mine fell somewhat behind, not because it lacked power to do harm, but for two other reasons—first, the wholesome dread inspired by the prescribed mined areas and next because of the various expedients adopted by the belligerents to neutralize these subaqueous weapons. Even so, the mine is playing a big part in marine warfare, and we shall have to count with it and against it now that we have joined forces with the entente allies.

It is a matter of record that the Germans got the jump on the British by their prompt and even daring employment of the submarine mine. Within a very short time after the declaration of war Teuton mine planters were operating on the English and Scottish coasts and were busily engaged in sowing these weapons at the very entrance of enemy ports and rivers.

For this purpose it was rather easy then to have recourse to North sea fishing craft that had all the outward complexion of innocence; indeed, for weeks these boats went about their work well-nigh unsuspected. It was only when British battle craft were mysteriously damaged and sunk that the British authorities awakened to their peril.

Even then the belief prevailed that the damage was more or less a matter of sheer chance—chance in the nature of a friendly defense mine that had got adrift. Then the next explanation was that a particularly daring U-boat commander had managed to get within striking distance, and finally it dawned upon the British coast patrol that enemy mines were being freely planted right under their very noses.

Every fishing boat was then an object of suspicion, and prompt investigation proved in a great many cases that there was ample warrant for this attitude. Neutral trawlers became more and more infrequent in certain of the waters contiguous to the north and east coasts of Scotland and England, and for a time the mine menace was held pretty well in hand.

The resourceful Teutons, however, were not checkmated, and it was only a question of time before they developed a method with which to offset the vigilance of the British coastal patrol. Then the German submarine mine layers got to work. How many of these the kaiser's experts have built and sent to their fields of service in the waters of the North sea especially, is not known. It is safe to say too many of them have been built and dispatched upon their missions and the general character of them all is probably much akin to that of the U-C-5, which was captured and taken into a British port.

By chance a British destroyer discovered the U-C-5 on the surface and in distress at some point along the east coast. When summoned by megaphone to surrender the crew of the submarine mustered on deck and held up their hands in token of submission, but curiously before a relief boat could be sent to them they jumped overboard.

The cause of their action was soon explained. Another member of the submarine's complement suddenly appeared upon deck and threw himself into the water and almost immediately afterward there were a number of violent explosions within the U-C-5. The last man had exploded bombs which blew holes in the craft. But for prompt action on the part of a British sublieutenant, who, protected by a gas mask, went dauntlessly down into the injured U-boat, the mine planter would have filled and gone to the bottom in water too deep for her recovery.

As it was, she represented a desperate task for her would-be salvors and it was necessary to secure a couple of mines within the boat that had been set free by the explosions before it was safe to tow the submarine into harbor and to dock her. Upon examination this new order of submarine was found to be charged or laden with a dozen powerful contact mines housed in six vertical wells passing directly from deck to bottom of the craft.

Each well held two mines, one on top of the other, and both were kept in their places by locking devices which could be released from within the submarine. The controlling station for this operation was found to be in the conning tower, so that the commander of the boat with only her periscopes above water could see just where to sow his weapons.

In this way the Germans have been able upon many occasions to approach certain sections of the waters about the British isles and to plant there mines that have accomplished the destructive work cut out for them. How many ships have been sent to the bottom by mines sown by boats of this sort is, of course, a matter of conjecture, but there can be no doubt that submarine mine planters are actively employed today.

One thing about them that makes them of special interest, even concern, to us is that there is nothing to prevent their operating in a similar manner upon our Atlantic coast. What is to prevent a submarine somewhat after the order of the Deutschland from being equipped for work of this nature? Instead of carrying some hundreds of tons of commercial freight she could just as easily divide that weight among mines, mine-planting apparatus and an increased supply of fuel and food which would make it possible for her to perform her service for longer periods and over wider zones of action.

The whole subject of submarine mines, offensive and defensive, and the subaqueous protection against enemy submarines is one with which our naval and military authorities are deeply engaged. It is safe to say that we are going to see some remarkable developments, and largely because our allies are going to give us the benefit of their own experience so that native ingenuity can start to improve upon the fruits of the labors of others. Indeed, our subaqueous defenses must of necessity be of the best types possible because of the extent of our seaboard and the comparatively limited number of vessels that the navy has for patrol work.

The recent presidential order prescribing defense zones at the approaches of certain ports and waterways had to do with the army's part primarily in this matter of subaqueous safeguards. The mine fields controlled by the military authorities, those of the Coast Artillery corps, are as a rule protected by observation mines or electric contact mines that are made active or inactive by the operation of a switch. That is to say, the vitalizing current comes from a central station ashore, and neither of these types of mines will explode unless the electric current reaches them by way of a submerged cable.

In the case of the contact mine with the current turned on the mine will explode when bumped and tilted over to a prescribed angle. The observation mine, on the other hand, does not have to be touched by the enemy craft, but is subject to the will of an observer on shore.

Observation mines are planted in groups and are laid out in definite checkerboard areas, and each group is set off separately and simultaneously. The observer, by means of range marks or bearings, knows just when the approaching foe reaches any one of these squares, and accordingly the one within which the enemy lies at the moment determines the group of mines to be detonated.

The contact mine, as may easily be understood, does its work where an observer might fail, after dark, and for that reason the electric current is turned on with set of sun and the whole area so sown becomes instantly a menace to friend or foe. It is quite likely that observation mines were employed by the Turks at the Dardanelles, and therefore by approaching from under water it was possible for the British submarine B-11 to dive beneath five rows of mines, probably shoving their cables aside and tilting the weapons, and then pushing on so that she could rise to the surface and torpedo the Turkish battleship Messudiyeh, which was stationed to guard that very mine field.

Had those mines been of the contact sort, the displacement of their cables would probably have caused their detonation and likewise the destruction of the B-11. Other British submarines succeeded in passing submerged through those Turkish defenses, the enemy observers being unable to see the underwater boats. It was the exploits of the submarines at the Dardanelles that disclosed to the British the weak spot in their own mine defenses and led a short while afterward to the development of other protective agencies in dealing with the German underwater boats.

Unquestionably the most spectacular part of submarine mining is that in which the weapons are resorted to in open waters, especially in those offshore areas where a defense of that sort is not ordinarily employed. The Italians were the pioneers in this order of subaqueous warfare, and they developed the art in peace to such a point that other nations realized that the mine was no longer limited in its potential usefulness either to the defense of a port or for blockading the ships in an enemy harbor.

The Italians showed that the submarine mines could be used offensively, so to speak, if planted secretly and placed where by strategy the unsuspecting foe could be lured over and into them. The Japanese during their war with Russia made good use of what the Italians had taught them, and when the present conflict began Germany was fully prepared to carry the practice still further.

German mine layers were ready and numerous on August 1 three years ago; and as we now know the kaiser's navy lost no time in mining the marine approaches to the fatherland. Not only that, but these craft, in various guises, planted mines over wide areas in the North sea and in the waters of the British isles.

The Hague convention of 1907 among other things provided that "it is forbidden to lay anchored automatic contact mines which do not become harmless as soon as they have broken loose from their moorings;" and it was also prescribed at that time that no unanchored mines should be used which would be dangerous more than an hour after they had been dropped into the sea. The mines in question are self-contained contact mines that are not controlled from any shore or observing station and are well-nigh instantly menacing when cast overboard.

Just before the war the Germans, with their usual technical cunnings, developed a naval offense and defense mine which could be used either in a fixed position or be planted hastily in water traversed by enemy shipping. This mine is the type which has done such destructive work and is designed to be fired by an electric battery placed inside of the mine, this battery being inactive until the mine has been submerged and then struck by a passing craft.

A development of the contact mine which the Germans have at times employed successfully is one surmounted by a dummy or decoy periscope. The object of this ruse is to invite ramming on the part of a patrolling vessel or even a merchantman when the deceived navigator believes that the chance is good for sending a U-boat to the bottom. Of course a vessel attempting to ram that dummy periscope is sure to strike the contact mine and cause it to explode, the result being disastrous to the ramming craft.

This lure has not worked so well latterly because the observer is able in a few moments to establish the fact that the periscope is stationary, and the work of getting the underlying mine out of the way is left to the fairly safe process of sweeping—trawlers linked together by a loop of wire rope doing the work.

In order to deal with both the submarine torpedo boat and the submarine mine planter the British admiralty has had recourse to defense nets of a novel character. These have been very well described by Rear Admiral William S. Sims. According to this authority:

"We did not find out for a long time what those nets are like and I think it is necessary that it should be understood in order to realize the great danger submarines run in the presence of light surface craft.

"The net is a very light one, made of little wire rope, probably not as big as a lead pencil, probably not more than a quarter of an inch in diameter. The meshes of the net are 12 to 15 feet square. On top of this net are floats and on the bottom are little weights.

"The moment this net—'unbeknownst' to the submarine commander, of course—is in the water in front of him, the floats keep the net on the surface and the weights keep the bottom down, and if he runs into it his bow goes into one of the meshes and the net falls back around him, and it may foul his propeller or may not.

"The net is 300 or 400 yards long, and as the submarine proceeds the floats will trail on the surface, so that even if he dives deeper he leaves these on the surface and his trail is plain and there is no difficulty then in capturing him. He knows when he runs into a net that his capture is practically certain. If he goes down 200 feet the floats of the net are still on the surface."

These nets are used in two ways, either passively at chosen points in guarded waters or they are dropped overboard by patrolling vessels that discover a submerged submarine in motion. It is a fact that even though a submarine be running totally submerged 20 or 30 feet down, it still causes a disturbance at the surface, not a wake in the usual sense of the term, but a type of wave which is easily distinguished from the regular surface waves, and this phenomenon is readily discernible from the bridge of a ship or from a hydroplane.

To return to the submarine mine. We have so far considered only that so-called offensive type which can be anchored in fairly smooth waters, such as prevail extensively in the North sea, but now let us take up that kind which can be dropped overboard in much deeper water. This sort is capable of being planted from a speedy ship seemingly bent upon escaping from her pursuers, and her strategy consists in inviting chase while dropping these stumblingblocks right in the path of her oncoming enemies.

Generally the ship hitting weapons of this sort does so bow on, and that part of a vessel is the least vital section. A craft may have her bow blown off and yet be able to make a haven, and besides the damage may be susceptible of speedy repair. Our mines, on the other hand, have a delayed action, and after being hit by the stem of a craft roll sternward in contact with her bottom for some distance before they explode. In this way the blow, when the mine does burst, strikes some vital area and the damage is well-nigh certain to be fatal.—New York Sun.

TO SAVE EYES OF SOLDIERS

Chain Visor Helmet Used by British, It Is Believed, Will Prevent Blindness.

One of the most interesting among the exhibits of women's work at the Colonial Institute recently was the new chain visor helmet, which is now being supplied to the British troops, London Tit-Bits states. This is an adaptation of the familiar steel antishrapnel helmet, which has been instrumental in saving so many hundreds of lives and thousands of head wounds. Round the forepart of the rim of this helmet runs a slender rod, to which is attached a strip of steel chain mail, about 3 inches deep. This slides on the rod as easily as a curtain, and it can be drawn, like a veil, fairly close by an ingenious contrivance and fastening.

The eyes of the wearer are thus protected against any flying fragment of shell, or, what is almost equally dangerous, any stone or piece of earth thrown up by the explosion of a shell. It is not claimed, of course, that this visor of mail will turn a direct hit which would inflict a mortal wound. Against that no protection is possible. But the great majority of cases of blindness are due to small flying particles of shell or stone which, if they had struck the cheek or forehead, would not have caused a serious wound.

It is believed by the inventor, Capt. H. R. Cruise, R. A. M. C. (T.), the well-known ophthalmic surgeon, that his visor will save a very large percentage of cases of preventable blindness. The steel mail, of course, obscures the vision to a certain extent, but not to such a degree that the soldier is unable to use his rifle. But if he wishes greater clearness of sight, half the mail can be looped back and one eye will still be securely protected.

Out of the 5,078 miles of railroad in Japan, all but 203 miles are owned by the government. The Japanese government plans to construct 200 miles of new railroad each year.

GIRLS HELP IN DOUBLE TRAGEDY

Innocently Assist Woman to Hurl Baby and Self to Death.

CHARMED BY CHILD

Mother, Who Had Been Ill, Enlists Aid of Youthful Bridge Promenaders to Leap Ninety Feet to Ground.

New York.—Sadie Winkler and Sylvia Klein, wise beyond their years in the sophistication of the East side and as inured to thrills as only the movies can blunt the sensibilities of girls of fifteen and fourteen, respectively, sauntered arm in arm across the Williamsburg bridge yesterday. It was five o'clock of a sunny afternoon in spring, a time when the bridge forms a promenade for the fashionables of the East end of the East side and the West end of Williamsburg.

That was one reason why Sadie and Sylvia were strolling on the bridge. They found the throng eminently satisfactory and had a pleasant consciousness that their own bright ribbons and nodding plumes were not lost in it.

Attracted by Baby.

As they approached the Brooklyn anchorage, where the six-foot guard-rail gives way to a granite structure only three feet high, the two girls paused as even movie patrons will at the sight of a toddling, chuckling, friendly baby. The child was not much more than a year old and was dressed in immaculate white from dark curls to uncertain feet. Lurching precariously, it clutched with confidence at Sadie's hand.

"He's a boy," said a woman in a sleek brown suit, of which even Sadie approved, as she noticed Sadie halt at the command of the small fingers. "Will you hold him for me a minute? My bag dropped over the railing."

Instantly the odd feeling that had obscured Sadie's ordinarily clear vision at touch of those fingers vanished. She looked over the head of the baby and into the eyes of the woman, and her cool stare had a glint of suspicion in it.

"What do you take us for?" she demanded. "Easy marks, that we should be left with a baby on our hands?" She was wise in movie lore.

"Aw, take the kid," pleaded Sylvia. "She's all right. Sure, we'll take him,

Sadie and Sylvia Stood Transfixed.

ma'am," and Sylvia snatched up the baby, who gurgled with delight at his new situation.

Jumps to Death.

The woman promptly climbed over the low granite railing. She picked up a handbag and then extended her arms for the child.

"I'll hold him till you get back," said Sylvia.

"Give him to me now!" demanded the woman, and Sylvia did so.

The woman kissed the smiling little face, hugged the white bundle and with a swift movement of her arms flung it upward and outward.

Sadie and Sylvia stood transfixed. Before they could move or utter a sound the woman had leaped after her child.

Without knowing how they got through the throng that pressed upon them with questions, Sadie and Sylvia found themselves stammering inadequate words to a policeman at the Manhattan end of the bridge.

Ninety feet below the bridge the woman and baby lay dead in South Sixth street. She was Mrs. Sophie Levitt, whose husband, Charles, has a tobacco shop at 407 Cornelia street, Ridgewood.

For several weeks she had been under medical treatment for a nervous trouble. When she left the house yesterday, after dressing her only child, Charles, in his best, she told her husband they were going to the doctor's.

KICK SPOILS MARE'S SALE

Active Heels Play Havoc With Bidding Ring at Auction Sale in Pennsylvania.

Wroughtstown, Pa.—It was scandalous the way Jennie, the old family mare, resented being auctioned off at the sale of the late Isaac Percy's effects recently. Farmers, who intending bidding, formed a ring in the barnyard, but Jennie kicked them into the next yard in a jiffy and sent John Kirkpatrick of Newtown banging against a stone wall.

"That mare's worth $50, on condition alone," called Auctioneer Cornell, safely outside the wall, "but I'm obliged to knock her down to the only one of you cussed bidders for his paltry $7.50."

CULTIVATE! CULTIVATE!

Produce More Food. But at the Lowest Cost.

A trip through most of the grain growing districts of Western Canada, and information received from authentic sources, reveals that the spring seeding of wheat, barley and oats is finished and the grain is having a most rapid growth. Men of farming experience here say that the conditions are similar to those years when there was an abundant harvest reaped. During the past year a number of new settlers came into the country, and they will undoubtedly have a good crop this year. This added to the normal acreage, made considerably less by the lack of labor owing to the number who have gone to the front, will give a fair general yield. It is surprising the growth that this country is capable of producing.

Wheat has this spring germinated and shown three or four inches growth in five or six days, and with anything like favorable weather, harvesting should commence about the 15th of August, or a little over one hundred days from first seeding. Hundreds of farmers throughout this vast country paid for their entire holdings out of one year's crop and it would not be surprising if the same experience met a great many more this year.

The best authorities on the wheat situation give it as their opinion that for many years to come, wheat prices will be high. They base their opinion on a scientific calculation and their reasoning seems to be sound. Anyway, it is quite evident that for some years to come, the producer of wheat will be amply rewarded for any effort he may make to develop this branch of agricultural industry. Money may be made on the high-priced lands of the wheat-growing districts of the United States, but it is a question if these high-priced lands would not be more profitably employed in other branches of farming than in growing the smaller grains, leaving it to lands just as productive for wheat, less expensive to operate, and with a much smaller initial price, to provide the world with this necessity of life. Here is where Western Canada, with its vast rich fertile plains, its low railway rates, its exceptionally good shipping privileges, its excellent climate, and its perfect social conditions, has a combination of advantages not possessed by any other portion of the continent.

Furthermore, these lands, of unexcelled quality, are extraordinarily cheap, while for the man who does not care to undertake farming on so extensive a scale there is the free homestead which offers him all the opportunity for which he is looking.

The prospective purchaser will have no difficulty at all in making a selection of a fine piece of land, well located and convenient to transportation, which may be had for from $15 to $25 an acre, and the railway companies or other holders of large tracts are always glad to sell on easy terms. Or if he desires a farm that is already under cultivation and improved, many such are to be had from farmers who already have made comfortable fortunes and are ready to retire.

It is not to the grain grower only that Western Canada offers great opportunities. If one wishes to go in for cattle raising, there are great stretches of range land both free and for lease; and in many sections of the country there are the finest of grazing lands that may be purchased at very low prices.

The appeal which has been sent out both by the United States and Canadian governments, for an unstinted, unlimited production of food stuffs to prevent what might otherwise be a famine throughout this great continent—and then consequently, throughout the world—should in itself arouse all the ambition and desire in the heart and soul of the man who is not fighting at the front, to produce all he can. In addition, there is the potent fact that no chances are being taken in answering the appeal. Take it from either standpoint you answer the country's call, although not fighting, and you are also insured against any loss by the high prices that are bound to exist for some time. Whether it be in the United States on its excellent grain lands or in Canada on its splendid grain lands, all should do their bit.—Advertisement.

Occasionally a woman will confess her imperfections for the purpose of inducing a man to deny that she has any.

After a man reaches the age of forty he quits trying to secure the moon and gives his entire attention to getting the earth.

In a Sense.

"I ache all over from working in my garden yesterday."

"Growing pains, eh?"

Once in a great while you meet a bright woman who successfully boasts of the skeleton in her closet.

Marital Consideration.

A considerate man who really wants to make his wife happy will look dejected and miserable at the station when she is leaving for the summer. She carries a heavy heart with her if he happens to be brutal enough to look as if he were anticipating a hot old time.—Houston Post.

Girls Won't Agree.

While we cannot wholly indorse the plan to impose an extra tax on bachelors, we are frank to say, having been one for many years, that it is worth it.—Topeka Capital.

The Worm Turns.

"Do my eyes deceive me?"

"What's wrong?"

"I believe Dobson's chest is actually inflated this morning."

"There's a reason for that."

"What?"

"Dobson has got Mrs. Dobson so wrought up by threatening to enlist that for the first time in nine years he's boss in his house."

Boy, Aged Nine, Kills Cougar.

Lynn Obye, only nine, of Portland, Ore., qualified as a hunter when he shot and killed a cougar that measured eight feet seven inches from tip to tip. The prowling animal was killed in the foothills of Yamhill county in the Coast Range mountains. The cougar had been killing stock of the farmers and his death was welcomed by those who had suffered from the raids upon their cattle.